UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the October/November 2008 question paper

0625 PHYSICS

0625/05 Paper 5 (Practical Test), maximum raw mark 40

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All Examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

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1 **(a)** **(i) & (ii)** h_0 value [1]
h_1 value < h_0 value [1]

(iii) correct e_1 value [1]
all above in correct unit (m, cm, mm) stated at least once [1]

(b) **(i) & (ii)** h_2 value, $<h_0$ and $> h_1$ [1]
e_2 value correct [1]

(c) density calculation correct [1]
2/3 significant figures, value 6–10 g/cm^3 [1]

(d) e_2 greater [1]
ρ greater (or identical to e_2 answer) [1]

[Total: 10]

2 Diagram: correct symbols for ammeter and voltmeter [1]
correct symbols for resistor [1]
correct circuit arrangement [1]

Table: units V, A (symbol/word) [1]
All V to at least 1 d.p., < 1.5 V [1]
All I to at least 2 d.p., $\leqslant$ 1 A [1]
Circuit 3 V < circuit 1 and 2 values [1]

(i) Statement: Yes (if within 10%) No (if not) [1]
Justification: must match statement (e.g. close enough/too different or words to that effect) [1]

Resistance at connections/temperature change/
Internal resistance of source/other sensible suggestion [1]

[Total: 10]

3 **(a)** record of θ_p (sensible value) [1]

Table
θ in °C, V in cm^3 [1]
6 sets of readings with correct V 0, 20, 40, 60, 80, 100 [1]
Temps decreasing [1]

Graph: axes labelled [1]
axes suitable (e.g. not '3' scale) and plots occupy more than ½ grid [1]
all plots correct (better than ½ sq) [1]
well judged, thin best fit line [1]

(d) 1. sensible comment about heat loss to the surroundings, e.g. use of insulation/lid [1]
2. sensible comment about adding water in a regulated, timed flow [1]

[Total: 10]

4 **(a)** y value 25–53 cm [1]

(b) correct calculation of f [1]
correct unit for y and f [1]

(c) y value 20–40 (cm) and f present [1]

(d) correct method [1]
average f 13–17 (cm) [1]

(e) d 13–17 cm [1]

(f) Yes (if within 2 cm) No (if not) [1]

(g) same size/real [1]
Inverted/brightness/coloured edges [1]

[Total: 10]